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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,036	09/21/2001	Madhav Datta	884.523US1	4661

7590 08/27/2002

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P.O. Box 2938  
Minneapolis, MN 55402

EXAMINER

KIELIN, ERIK J

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/961,036

Applicant(s)

DATTA ET AL.

Examiner

Erik Kielin

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 17-45 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Examiner acknowledges the election of the invention of Group II, claims 17-30; the cancellation of claims 1-16 (Group I); and the addition of new claims 31-45.

### *Election/Restrictions*

2. This application contains claims directed to the following patentably distinct species of the claimed invention:

- I. Claims 17-19, 21, 23, and 25, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and are formed of various selected materials by physical vapor deposition.

- II. Claims 20, 31, 35, and 36, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are specifically Ti and the 1<sup>st</sup> layer is formed by sputtering.

- III. Claim 22, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and 2<sup>nd</sup> layer is specifically NiV formed by sputtering.

- IV. Claims 24 and 26, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are specifically NiV and wherein the third layer is formed by sputtering.

- V. Claim 27, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and are formed of unspecified materials by sputtering.

- VI. Claims 28-30, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and are formed of unspecified materials by sputtering and then etched.

Art Unit: 2813

VII. Claims 32, 33, 34, 37, and 38 drawn to a process wherein the 1<sup>st</sup> layer is Ti, and the 2<sup>nd</sup> through 4<sup>th</sup> layers are NiV, notably in contradiction to claim 17.

VIII. Claim 39, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and one of the 2<sup>nd</sup> and 4<sup>th</sup> layers is nitrided.

IX. Claims 40-42, drawn to a process wherein the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> materials are the same and a bump precursor is formed.

X. Claims 43-45, drawn to process, wherein the 1<sup>st</sup> and 3<sup>rd</sup> layers are the same material and the 2<sup>nd</sup> and 4<sup>th</sup> layers are the same material.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to

Art Unit: 2813

be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

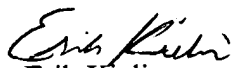
**Examiner notes that claims 32, 33, 34, 37, and 38 (species of Group VII) do not appear to have support from the original disclosure. Furthermore, the claims depend from claim 17 and directly contradict claim 17 because claim 17 requires the 1<sup>st</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> layers to be the same material, but claims 32, 33, 34, 37, and 38 require either the 1<sup>st</sup> layer to be different from the 3<sup>rd</sup> and/or 4<sup>th</sup> layers.**

3. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 703-306-5980. The examiner can normally be reached on 9:00 - 19:30 on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached at 703-306-2417. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
Erik Kielin  
August 26, 2002